SITE ASSESSMENT

FOR

L. H. INC.
CAMBRIDGE, OHIO

Prepared for:

U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois

CONTRACT NO. 68-01-7367

TAT-05-G2-00492

TDD# 5-8803-17

Prepared by:

WESTON-SPER
Technical Assistance Team
Region V

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1.0 SITE DESCRIPTION

The L.H. Inc. site is an abandoned spent pickle liquor treatment facility located at 1502 Beckett Avenue, Guernsey County, Cambridge, Ohio (Figure 1). The 1/3-acre site consists of three treatment lagoons and two buildings. Contaminants on site include treated pickle liquor and sludge in the lagoons and a pile of lime (calcium carbonate) in one of the buildings. The treated liquid and sludge have a pH range of 7 to 10 and contain heavy metals, particularly iron, chromium, and nickel. Current owners of the property are J. Phillip and Sharlie Rich, who also own the adjacent Sunstone Pottery Company.

The site terrain is relatively flat. Land usage surrounding the site is a mix of residential and commercial property. Railroad tracks for the Baltimore & Ohio Railroad (Chessie System) border the eastern and northern edges of the property (Figure 2). A mixed residential and business area is immediately west of the site, and to the south is the Sunstone Pottery Company.

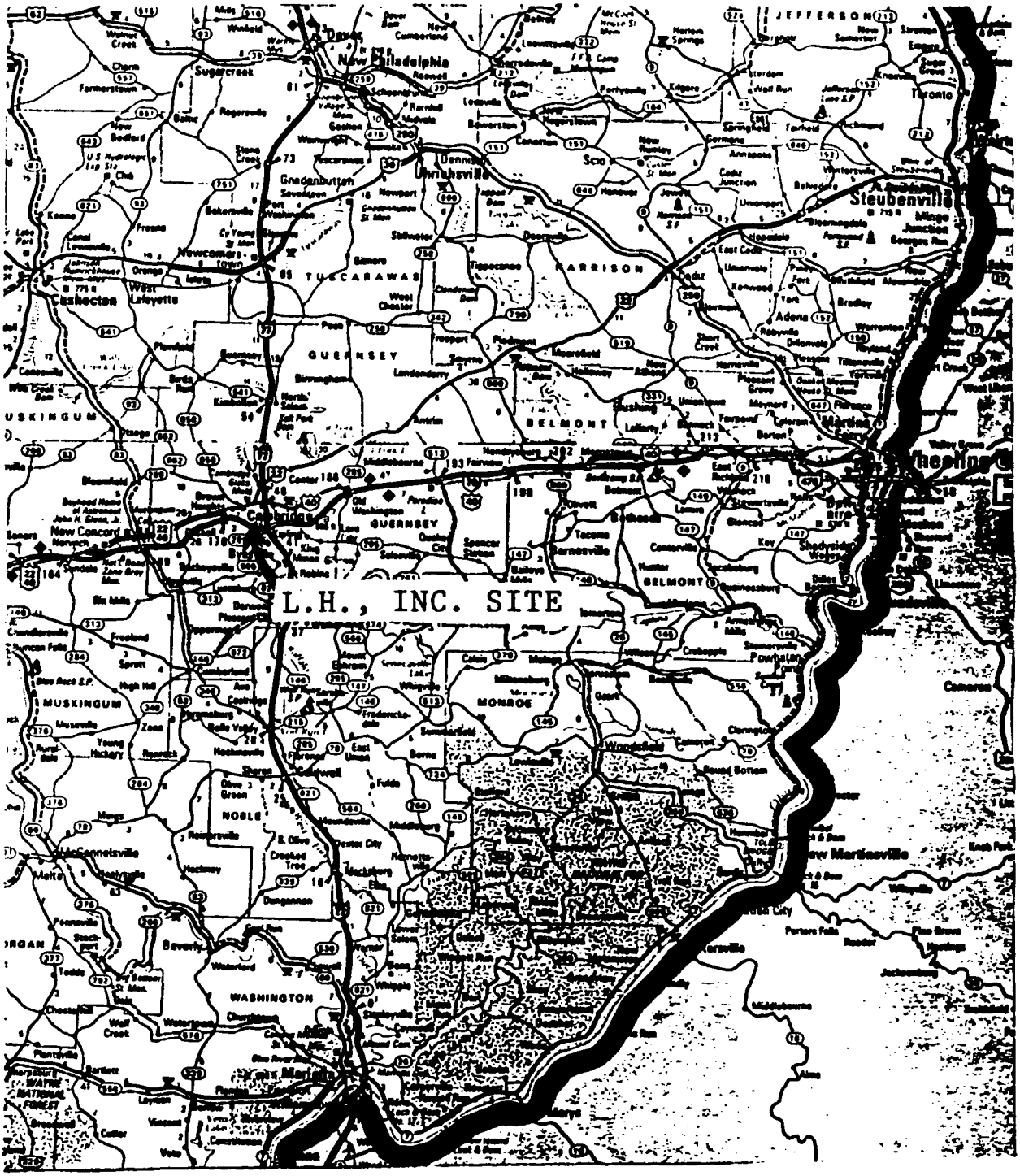
Surface waters from the site drain into Leatherwood Creek. Leatherwood Creek enters Wills Creek 3-miles downstream from the Cambridge City Reservoir pumping station. Steve Poorman of the Ohio Environmental Protection Agency (OEPA) reported that Cambridge residents were not utilizing the ground water in the area of the site.

2.0 SITE BACKGROUND

From June 10, 1980, until September 25, 1980, L.H. Inc. transported, treated, and disposed of approximately 1.5 million gallons of spent pickle liquor (40 CFR Part 261.32 EPA Hazardous Waste No. K062) at this facility in Cambridge, Ohio. All the pickle liquor treated by L.H. Inc. was generated at Republic Steel Company (presently LTV Steel Company) plants in Canton and Massillon, Ohio. No waste was accepted at the L. H. Inc. site after September 25, 1980.

Spent pickle liquor was listed as a hazardous waste on May 19, 1980, by the U.S. Environmental Protection Agency (U.S. EPA). L.H. Inc. had 90 days after this listing date to notify the OEPA of its hazardous waste activities at the Cambridge site. L.H. Inc. failed to apply for an operating permit and did not file a notification of Hazardous Waste Activity as a treatment, storage, and disposal facility until November 2, 1980.

In December 5, 1980, L.H. Inc. was enjoined by the Guernsey County Court of Common Pleas from accepting waste at its Cambridge facility. On November 19, 1981, L.H. Inc. filed an application with the OEPA for a Part A Hazardous Waste Permit. This application apparently was the first knowledge of the site by the U.S. EPA.



SCALE 7/8" = 10 MI.

FIGURE 1
LOCATION MAP
L.H., INC.
CAMBRIDGE, OHIO

WESTON

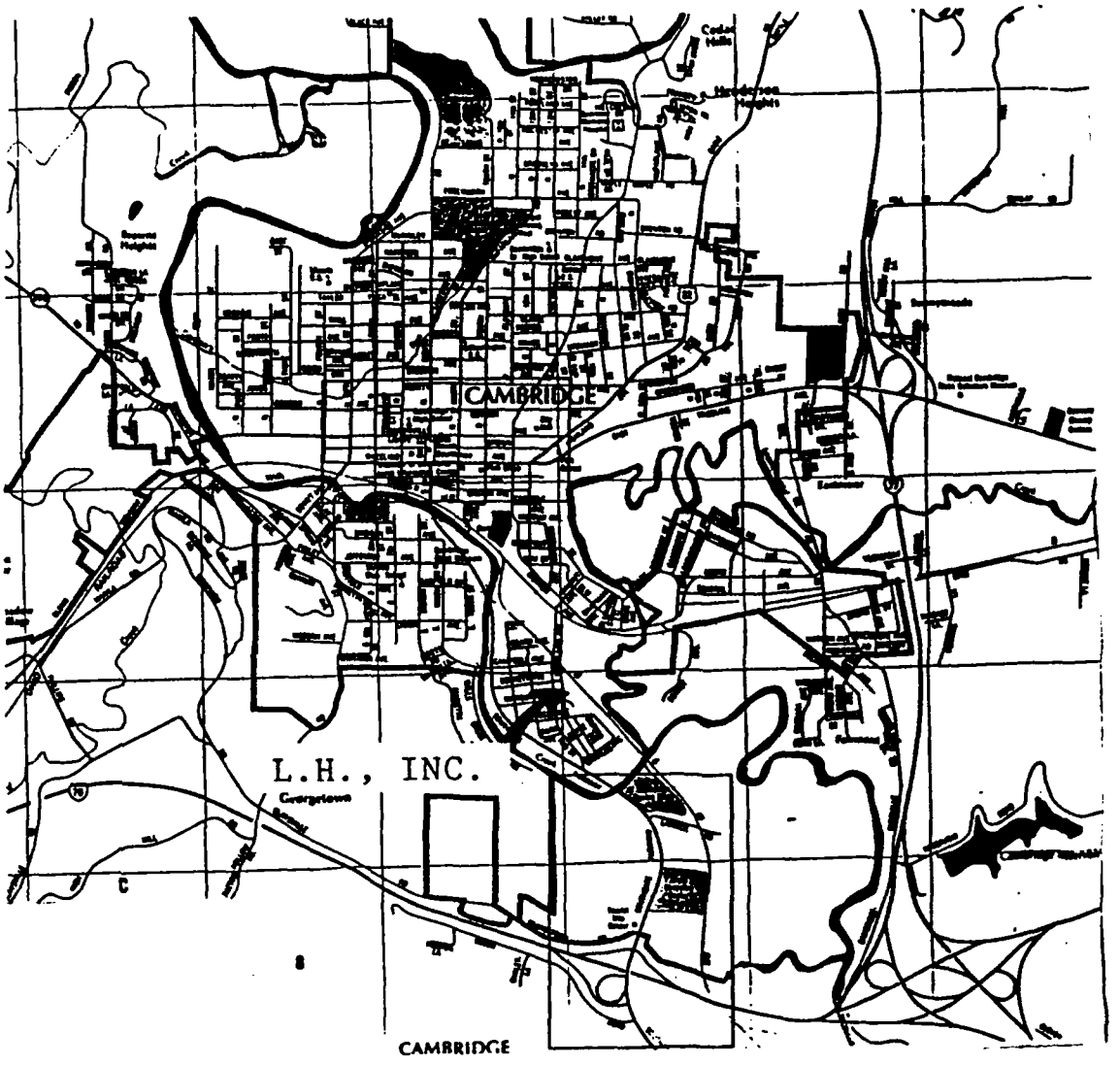


FIGURE 2
SITE LOCATION MAP
L.H., INC.
CAMBRIDGE, OHIO

SCALE 1½" = ½ MI.

N

WESTON

On May 14, 1982, the state of Ohio and L.H. Inc. entered into a consent decree whereby L.H. Inc. was enjoined from operating the facility for the treatment or disposal of waste and ordered to submit a closure plan to the OEPA within 30 days. L. H. Inc. failed to submit the closure plan to the OEPA within the timeframe allowed by the consent decree. During October 1982, a 3008(a) Administrative Order was issued by the U.S. EPA against L.H. Inc. assessing a $25,000 civil penalty for violations of Resource Conservation and Recovery Act (RCRA) regulations.

On January 25, 1984, L.H. Inc. submitted a closure plan for review by the OEPA and the U.S. EPA. This plan was amended on May 11, 1984, and approved by the U.S. EPA on July 30, 1984, and by the OEPA on September 24, 1984.

During January 1985, liquid from Lagoons 2 and 3 was discharged into the city of Cambridge sewer system, with the permission of the city of Cambridge and the OEPA. The liquid in Lagoon 1 was to be disposed of at an approved treatment or disposal facility. Sludge in all three lagoons was allowed to remain.

During April 1985, L.H. Inc. filed a petition for Chapter 7 bankruptcy. In the summer of 1985, the property leased by L.H. Inc. was sold at an auction to J. Philip and Sharlie Rich. Following the bankruptcy petition by L. H. Inc., the office of Regional Counsel of the U.S. EPA contacted the LTV Steel Company (formerly Republic Steel) and informally requested that they clean up the L. H. Inc. site.

LTV Steel did not agree to a site cleanup; however, it did agree to perform preliminary testing and to develop an engineering assessment of the L. H. Inc. site. Burgess & Niple, Limited, of Columbus, Ohio, was retained to sample and analyze the material in the lagoons. The results of the analyses are discussed in Section 4.0.

On July 17, 1986, LTV Steel Company filed a petition for reorganization under Chapter 11 of the U. S. Bankruptcy Code. Although site sampling and analyses were completed prior to the petition, there was no final report or recommendations submitted by Burgess & Niple.

On September 18, 1987, the OEPA performed an annual RCRA Interim Status (ISS) Inspection at the L. H. Inc. site. This inspection noted that the site was abandoned, the operator was bankrupt, the current owner had closed his business on the adjacent property, and the generator of the treated pickle liquor was under Chapter 11 bankruptcy protection. In order to properly close the facility, the OEPA subsequently contacted the U.S. EPA and requested emergency removal of the material in the impoundments

by the U.S. EPA. Following this contact, the U.S. EPA tasked the Technical Assistance Team (TAT) to inspect the facility and evaluate hazards present at the site.

3.0 SITE INSPECTION

TAT members Ellen Stanifer, William Scoville, and Jerry Boeckman conducted a site assessment at L.H. Inc. on April 21, 1988. Mr. Poorman of the OEPA accompanied the TAT on the site inspection.

The 1/3-acre, abandoned pickle liquor treatment site consisted of three treatment lagoons and two brick buildings (Figure 3). A chain-link fence surrounded the site. Locked gates were located on the northwest and south sides of the site. A gate on the southeast side of the site was unlocked and provided unrestricted access to the site.

Lagoons

Each of the three lagoons covered an area of approximately 1,120 ft^2, was 5 ft in depth, and held approximately 40,000 gallons of treated waste product. A deteriorating wooden-plank fence 3 ft in height surrounded each lagoon. The lagoons were lined with thick, rubber liners to prevent leaching of treated wastes into the underlying soil. The area surrounding the lagoons was heavily vegetated with shrubs and grasses. All three lagoons contained a semi-murky liquid. Freeboard ranged from 4 to 12 inches in each lagoon.

During the site inspection, a reddish-orange sludge on the bottom of Lagoon 1 was stirred to the surface by the TAT; however, no sludge could be stirred to the surface in either Lagoon 2 or 3. Sludge produced by a lime treatment of spent pickle liquor constitute U.S. EPA listed Hazardous Waste, No. K063 (40 CFR Part 261.32). Liquid and sludge in the lagoons registered between 7 and 10 on pH indicator strips. At the surface, the lagoon liners appeared to be intact. No tears, holes, or abraded surfaces were evident on the exposed parts of the liners. The part of the liners containing the liquids and sludges are assumed to be intact. No effort was made to excavate soil or to check the subsurface integrity of the liners because of the potential of causing contaminant migration.

Buildings

The two brick, one-story buildings on the western portion of the site were separated from each other by a gravel drive overgrown with grass. The first-floor windows on the eastern building (Building 1) were boarded over and the basement windows covered with iron bars. The basement was cluttered with debris, but no drums or containers of waste were observed. Windows in the west

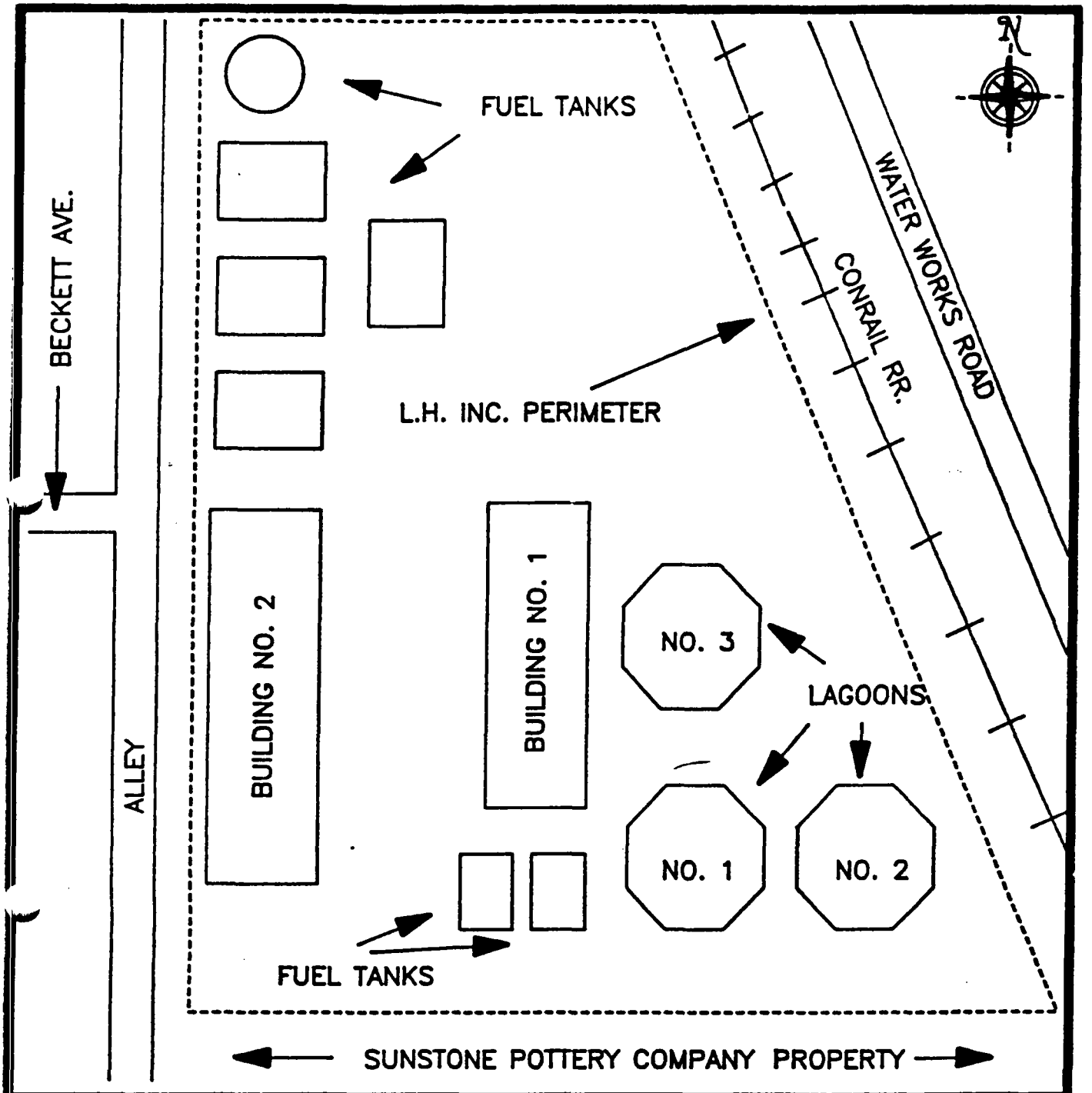


FIGURE 3

SITE MAP

L.H., INC.

CAMBRIDGE, OHIO

NOT TO SCALE

WESTON MANAGERS DESIGNERS/CONSULTANTS

DRAWN BY P.M.S.	DATE 8/3/88	PCS # 1462
APPROVED BY L.A.	DATE 8/3/88	TDD # S-8803-17

building (Building 2) were also boarded, but several sets of garage doors in this building were left open. A large pile (approximately 21 yd^3) of lime was observed in a storage area of Building 2. This material may have been used to treat the acidic pickle liquor.

Tanks

Midway between Building 1 and the southern edge of the property two 300-gallon capacity fuel tanks were observed. Both tanks were measured and found to be approximately half full. Air monitoring readings taken inside the tank openings indicated the presence of an organic-based liquid, which was likely to be some type of fuel.

Four 10,000-gal-capacity horizontal fuel storage tanks were located approximately 30 ft north of Building 2. The four tanks rested on their sides on top of several 10-ft-high brick wall supports. Adjacent to the four tanks was a 20,000-gal-capacity, vertical storage tank. According to the OEPA representative, Mr. Poorman, these five tanks had been previously checked and found to be empty.

Air Monitoring

A Thyvac III Radiation Meter, HNU Systems Photoionization Analyzer, MSA Combustible Gas Indicator, and hydrogen cyanide and hydrogen sulfide Monitox units were used by the TAT to perform air monitoring during the site inspection. All readings remained at background levels except those recorded inside the two 300-gal capacity fuel tanks. HNU readings inside these two tanks registered up to 250 units.

Sampling

One liquid sample and one sludge sample were collected from Lagoon 1 during the site investigation. The TAT sampled Lagoon 1 on April 21, 1988 to verify data from samples collected by Burgess & Niple in 1986. Two 8-oz glass jars of sludge were collected from the bottom of Lagoon 1. No preservative was necessary for the sludge samples. The samples were sent to ATEC Associates, Inc., in Indianapolis, Indiana under TAT Analytical Services TDD# 5-8804-L5 for Extraction Procedure (EP) Toxicity and Hazardous Substance List (HSL) metals analysis.

4.0 ANALYTICAL RESULTS

The LTV Steel Company Contractor (Burgess & Niple) analytical results of the liquid and sludge composite samples from the three lagoons is presented in Table 1 and 2. The data indicate that neither the lagoon liquid nor the sludge exhibit U.S. EPA

TABLE 1

ANALYTICAL RESULTS OF BURGESS & NIPLE, LTD, LAGOON LIQUID SAMPLING
L.H. INC.
CAMBRIDGE, OHIO
May 14, 1986
(results in mg/l)*

Parameter	Lagoon 1	Lagoon 2	Lagoon 3	Ohio Public Water Supply Criteria[1]
Arsenic	0.350	0.210	0.210	0.05
Barium	0.076	0.034	0.023	1.0
Cadmium	0.022	0.009	0.007	0.01
Lead	0.060	0.009	0.007	0.05
Mercury	ND	ND	ND	0.002
Nickel	0.079	ND	ND	--
Selenium	1.700	3.400	3.000	0.01
Silver	0.040	0.016	ND	0.05
Zinc	0.053	ND	ND	5.0
Biochemical oxygen demand	<12.0	<12.0	<12.0	
pH (S.U.)	8.5	10.0	10.0	
Specific conductivity (umhos)	>10,000	4600	3800	
Suspended solids	7.0	7.0	0.5	

*Except as noted.

[1]State of Ohio Water Quality Standards, Chapter 3745-1 of the Administrative Code, Ohio Environmental Protection Agency April 30, 1987.

ND - Not Detected at method detection limits.

TABLE 2

ANALYTICAL RESULTS OF BURGESS & NIPLE, LTD, LAGOON SLUDGE SAMPLING
L.H. INC.
CAMBRIDGE, OHIO
May 14, 1986

Sample Identification and Parameter	Lagoon 1	Lagoon 2	Lagoon 3	RCRA EP TOX Standards	Natural Soils (Range-ppm)[1]
EP Toxicity Leachate: (mg/liter)					
Arsenic	0.033	0.027	0.021	5.0	
Barium	0.140	0.210	0.290	100.0	
Cadmium	0.022	0.013	0.015	1.0	
Chromium	3.900	3.700	0.290	5.0	
Lead	0.008	0.009	0.013	5.0	
Nickel	37	26	1.900	NA	
Selenium	0.220	0.051	0.066	1.0	
Silver	0.014	ND	ND		
Digested Sample: (mg/kg)					
Cadmium	0.520	0.710	0.810		0.01-0.7
Chromium	1,600	1,200	1,100		1 - 1000
Iron	10,000	4,500	6,000		—
Lead	7.3	10.0	90		2 - 200
Nickel	1,000	1,100	460		5 - 500
As Received Sample: (mg/kg)*					
Cyanide	0.56	0.58	0.56		
pH (S.U.)	8.2	10.5	10.6		
ASTM Leachate: (mg/liter)					
Cyanide	ND	ND	0.19		
Fluoride	7.9	32.4	8.53		

*Except at noted.

[1]U.S. EPA Office of Solid Waste and Emergency Response, Hazardous Waste Land Treatment, SW-874, April 1988.

NA - Not Applicable
ND - Not Detected at method detection limits.

defined characteristics of corrosivity or EP Toxicity. However, cadmium, chromium, and nickel concentrations in the sludge samples did exceed by a factor of 2 or less the range of levels observed for these elements in natural soils.

The analytical results of the one composite liquid and one composite sludge samples collected by the TAT from Lagoon 1 are presented in Table 3. With the exception of chromium, the HSL metal levels in the lagoon liquid are acceptable as compared to Ohio Public Water Supply Standards. The majority of the HSL metal concentrations observed in the sludge sample were within the typical concentrations range for naturally occurring soils. Chromium, magnesium, and nickel concentrations in the sludge sample were slightly elevated as compared to the range for naturally occurring soils. EP Toxicity metal concentrations in the sludge sample were all below the levels established by the U.S. EPA RCRA regulations.

5.0 THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Based on a site investigation and analysis of the sample data, it appears that the material at L.H. Inc. site poses little, if any, immediate threat to human health and the environment. This determination is based on an examination of all removal action criteria set forth in the National Contingency Plan (40 CFR Part 300.65).

6.0 RECOMMENDATIONS

Based on the two sampling efforts and the TAT observations, no imminent threat to human health and the environment exists at the L.H. Inc., site. Therefore, a U.S. EPA removal action is not warranted at this time. The following actions, however, should be addressed, whether by the U.S. EPA, OEPA, or local authorities:

- Secure the Site: A chain and lock should be installed at the southeast corner gate to restrict site access.
- Explore Mitigation Alternatives: One option would be to divert lagoon liquid to the municipal sewer system and remove sludge to a nearby sanitary landfill.
- Pursue the PRP(s): Although several potentially responsible parties exist for this site, the party that generated the waste--LTV Steel--may be pursued as the principal PRP for addressing the above actions and recovering costs of all previous work conducted at the site.

TABLE 3

ANALYTICAL RESULTS OF TAT SAMPLING[1]
L.H. INC.
CAMBRIDGE, OHIO
April 21, 1988

Hazardous Substance List (HSL) Metals	Lagoon Liquid (mg/liter)	Ohio Public Water Supply[2] Criteria (mg/liter)	Lagoon Sludge (mg/kg)	Natural[3] Soils (Range-ppm)
Aluminum	ND	—	75	10,000-300,000
Barium	ND	1.0	95	100 - 3,000
Calcium	100	—	26,000	NA
Chromium	0.07	0.05	1,300	1 - 1,000
Cobalt	ND	—	15	1 - 40
Copper	0.09	1.0	99	2 - 100
Iron	ND	—	6,100	NA
Lead	ND	0.05	13	2 - 100
Manganese	ND	0.05	8.8	20 - 3,000
Magnesium	160	—	8,700	600 - 6,000
Nickel	ND	—	640	5 - 500
Potassium	22	—	49	NA
Sodium	3,200	—	4,500	NA
Thallium	ND	—	8.6	NA
Vanadium	ND	—	14	20 - 500
Zinc	ND	5.0	180	10 - 300

[1]Analytical performed by ATEC Associates, Inc., Indianapolis, Indiana

[2]State of Ohio Water Quality Standards, Chapter 3745-1 of the Administrative Code, Ohio Environmental Protection Agency, April 30, 1987.

[3]U.S. EPA office of Solid Waste and Emergency Response, Hazardous Waste Land Treatment, SW-874, April 1983.

ND - Not Detected at method detection limits.

NA - Not Applicable

ATTACHMENT A

SITE PHOTOGRAPHS

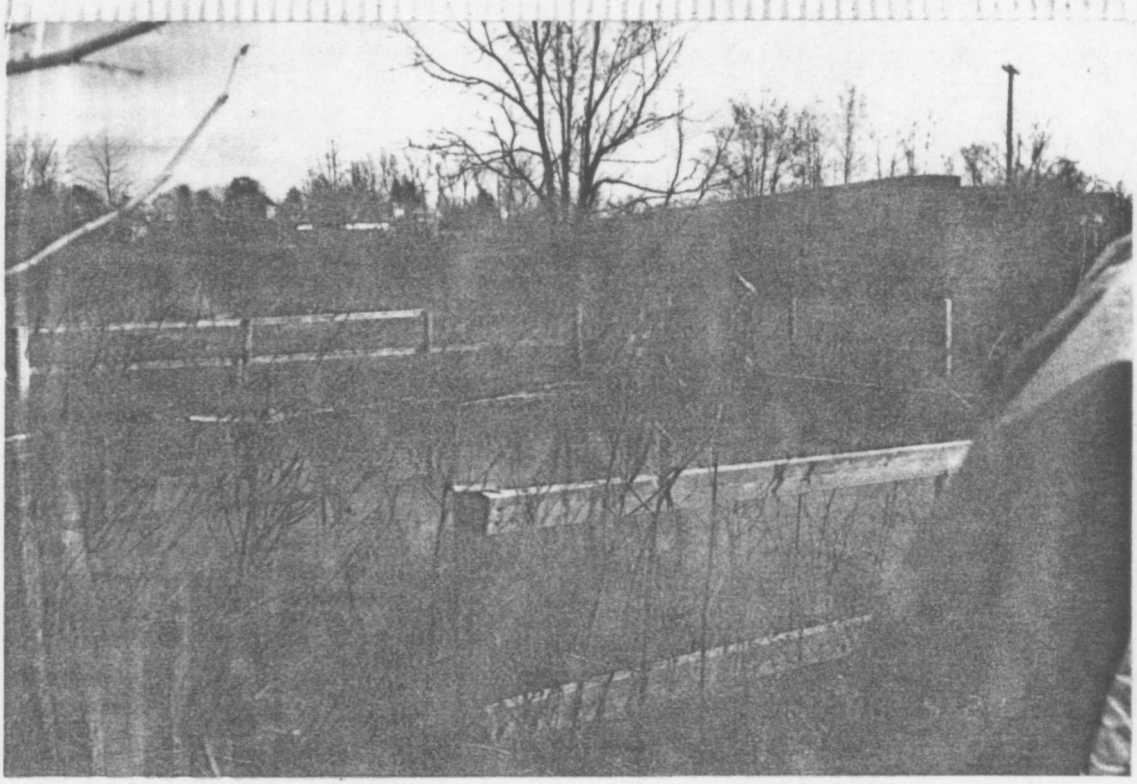


PHOTO NUMBER 1
Roll 1, Photo 1
L.H. Inc., Cambridge, Ohio
View to the southeast over Lagoon 2.
Wooden retaining fence is deteriorating.
(Photo by Stanifer, 4/21/88) EES

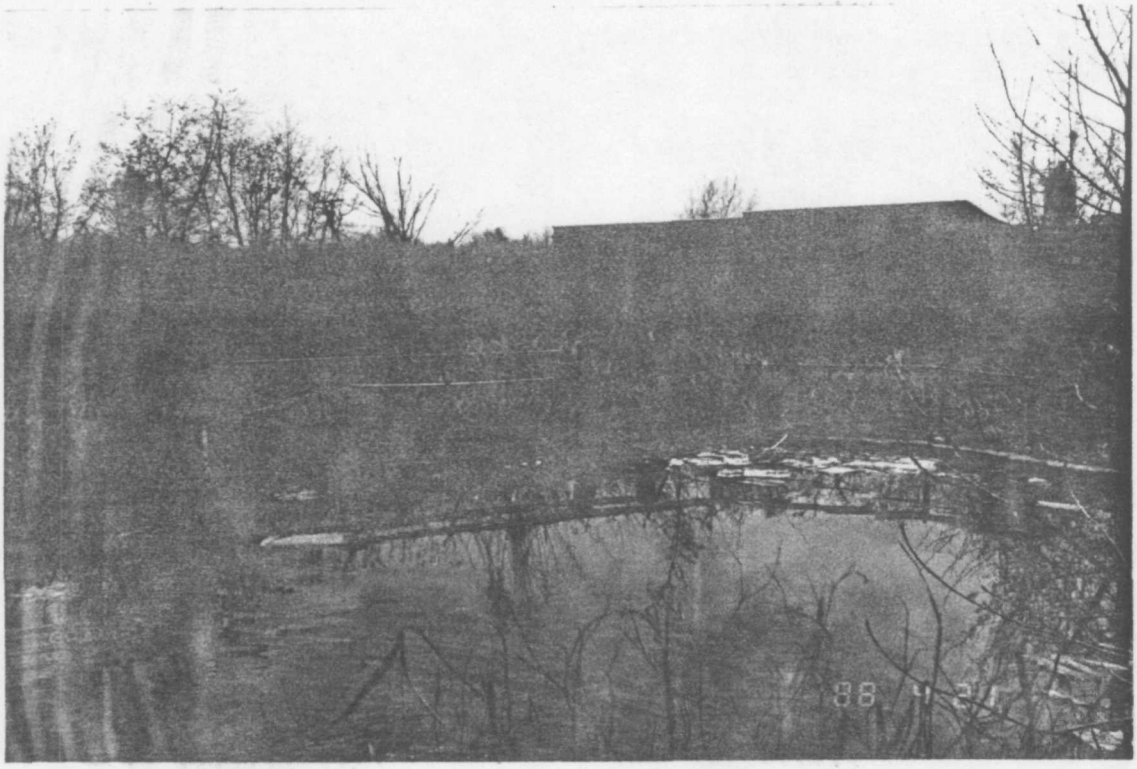


PHOTO NUMBER 2
Roll 1, Photo 2
L.H. Inc., Cambridge, Ohio
View to the southeast over Lagoon 1.
Lagoon 2 and Sunstone Pottery in background.
(Photo by Stanifer, 4/21/88) EES

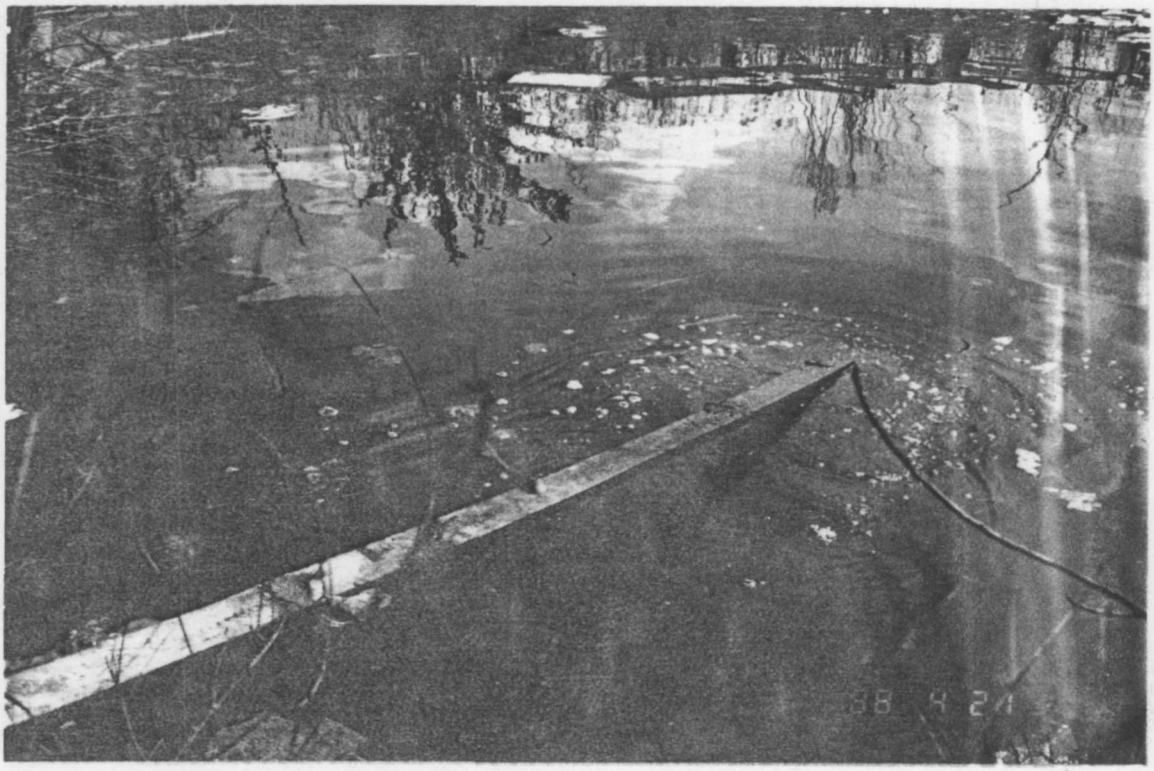


PHOTO NUMBER 3
Roll 1, Photo 3
L.H. Inc., Cambridge, Ohio
Sludge being stirred from bottom of Lagoon 1.
(Photo by Stanifer, 4/21/88) EES

PHOTO NUMBER 4
Roll 1, Photo 4
L.H. Inc., Cambridge, Ohio
Vegetation and debris along edges of Lagoon 1.
Lagoon 2 in background. View to the east.
(Photo by Stanifer, 4/21/88) EES

PHOTO NUMBER 5
Roll 1, Photo 5
L.H. Inc., Cambridge, Ohio
TAT Scoville measuring depth of liquid in
300-gal tank. View to the southwest from Lagoon 1.
Residential area in background.
(Photo by Stanifer, 4/21/88) EES

PHOTO NUMBER 6
Roll 1, Photo 6
L.H. Inc., Cambridge, Ohio
View to the south from 300-gal storage
tank next to Lagoon 1. Sunstone Pottery
in background.
(Photo by Stanifer, 4/21/88) EES

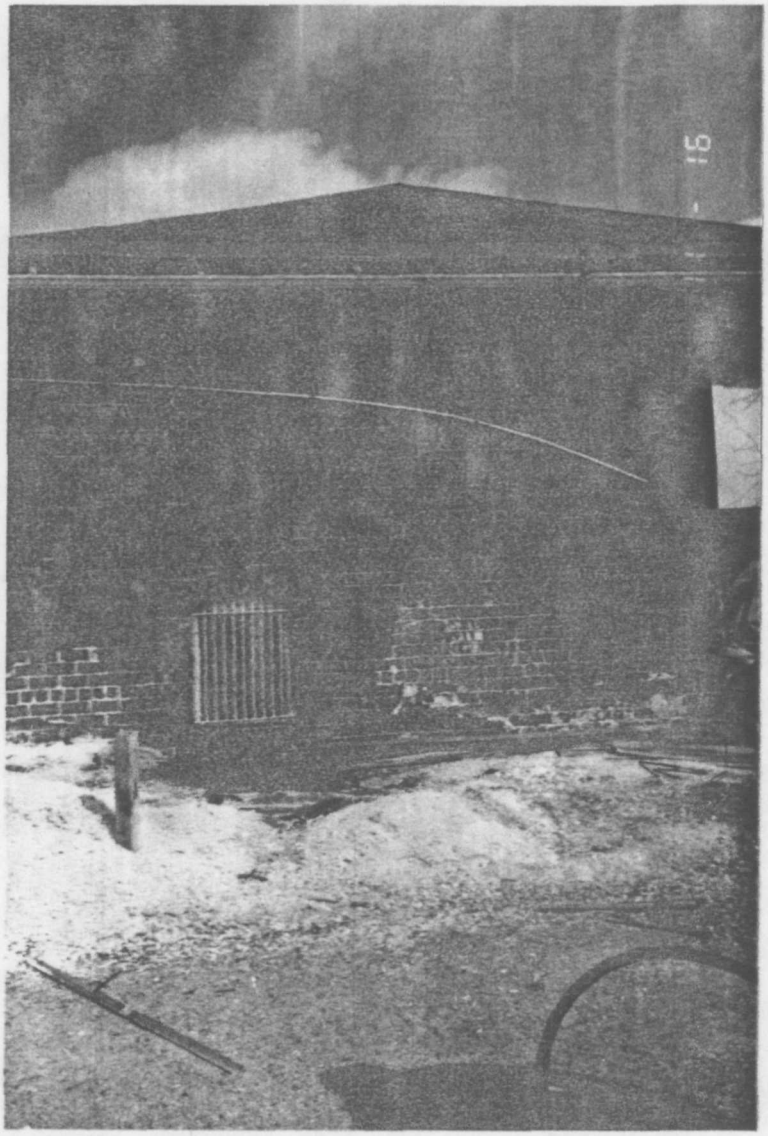


PHOTO NUMBER 7
Roll 1, Photo 7
L.H. Inc., Cambridge, Ohio
View of lime pile at base of building
next to Lagoon 3 (looking north).
(Photo by Stanifer, 4/21/88) EES

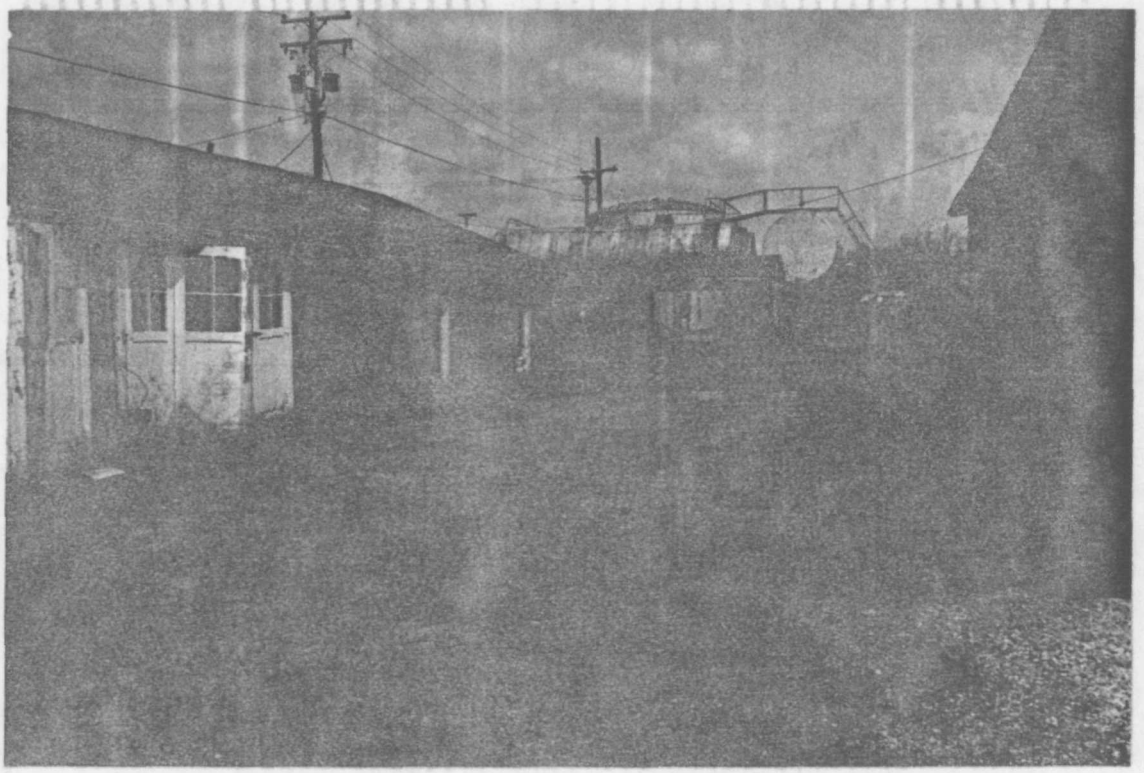


PHOTO NUMBER 8
Roll 1, Photo 8
L.H. Inc., Cambridge, Ohio
View of storage tanks and buildings 1 and 2
located west and northwest of the lagoons.
(Photo by Stanifer, 4/21/88) EES

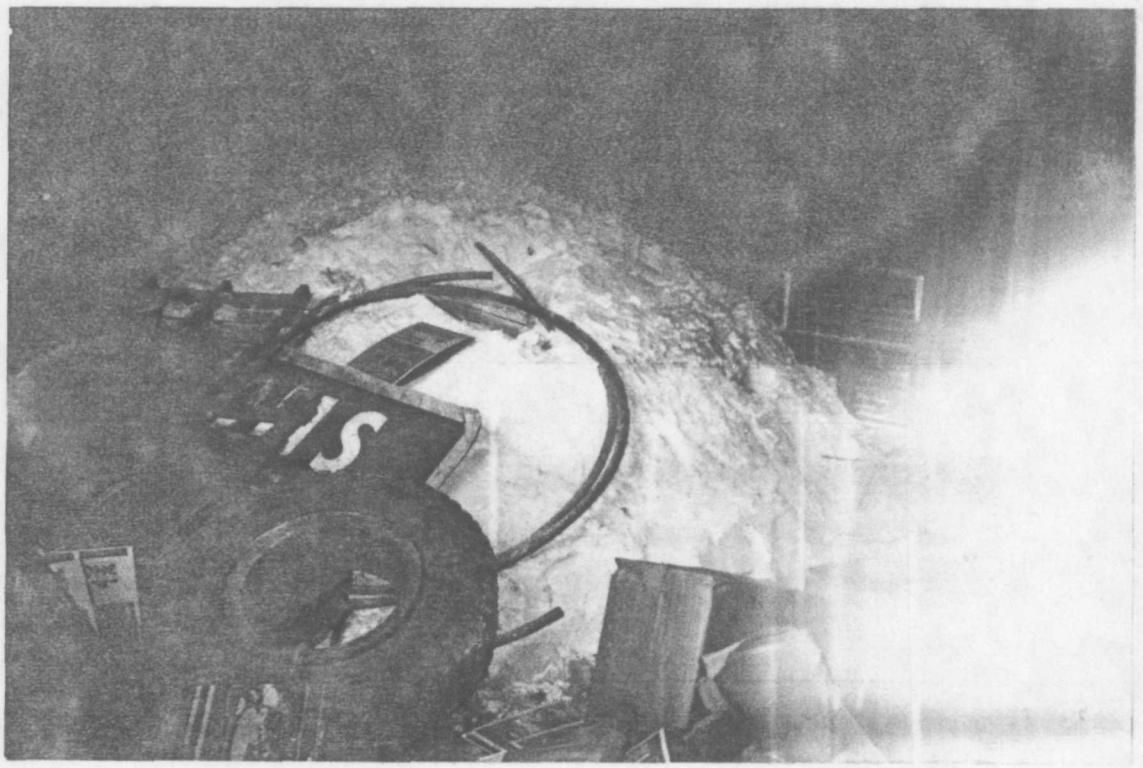


PHOTO NUMBER 9
Roll 1, Photo 9
L.H. Inc., Cambridge, Ohio
View of lime pile inside storage building 2.
(Photo by Stanifer, 4/21/88) EES

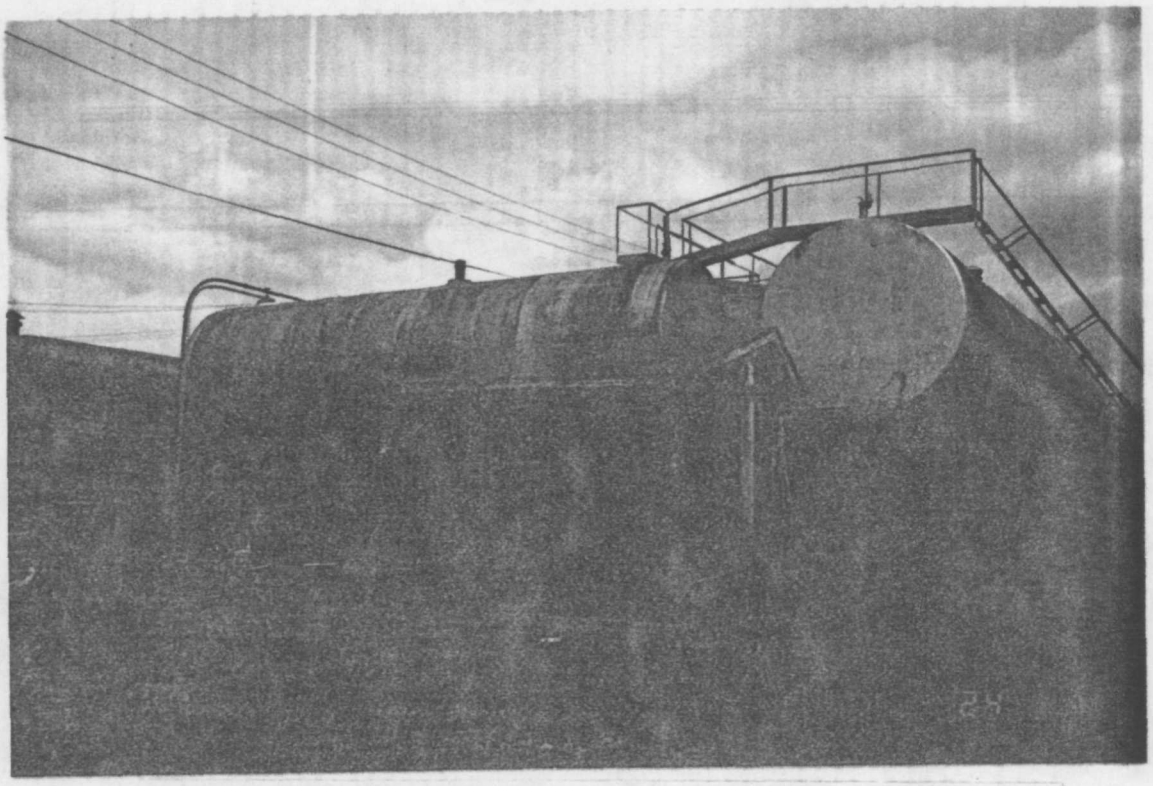


PHOTO NUMBER 10
Roll 1, Photo 10
L.H. Inc., Cambridge, Ohio
View of fuel loading dock and metal storage tanks.
(Photo by Stanifer, 4/21/88) EES

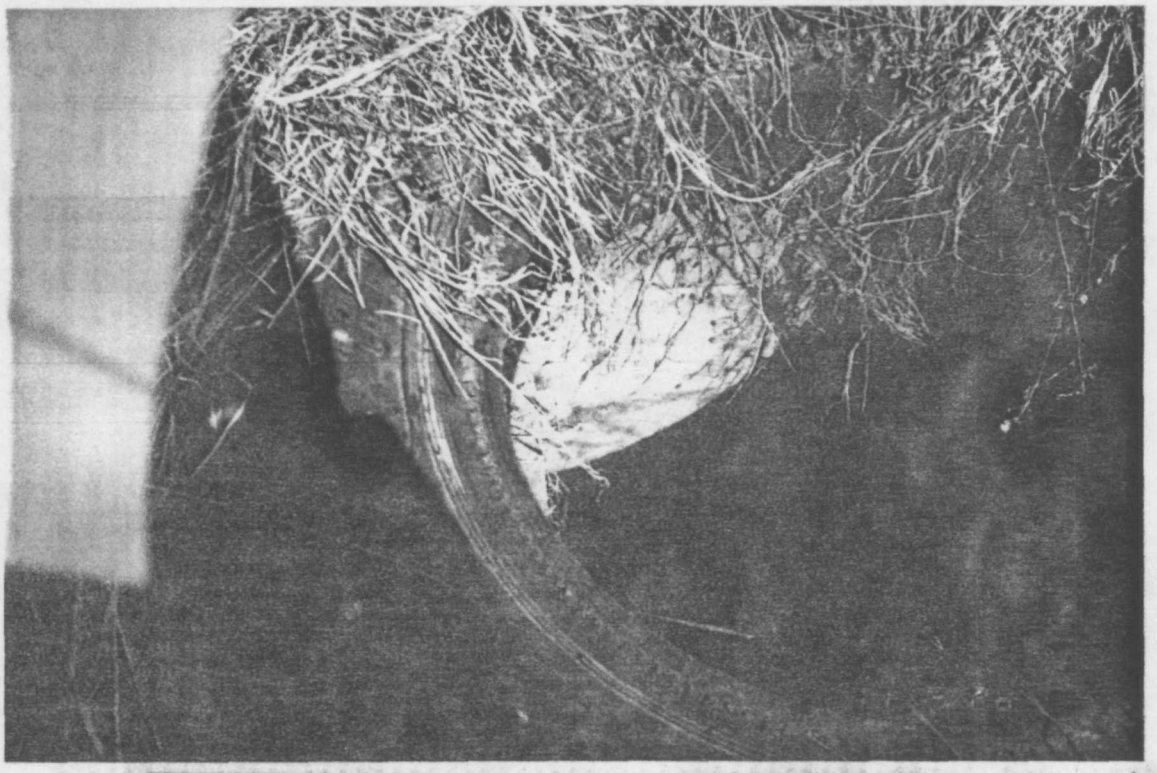


PHOTO NUMBER 11
Roll 1, Photo 11
L.H. Inc., Cambridge, Ohio
View of drain leading to Cambridge sewer system.
Drain is located approximately 15 ft north of
Lagoon 3. Truck tire protects drain surface.
(Photo by Stanifer, 4/21/88) EES

PHOTO NUMBER 12
Roll 1, Photo 12
L.H. Inc., Cambridge, Ohio
View of Lagoon 3. Cement pad at middle left used to stage pump that transferred liquid between lagoons.
(Photo by Stanifer, 4/21/88) EES

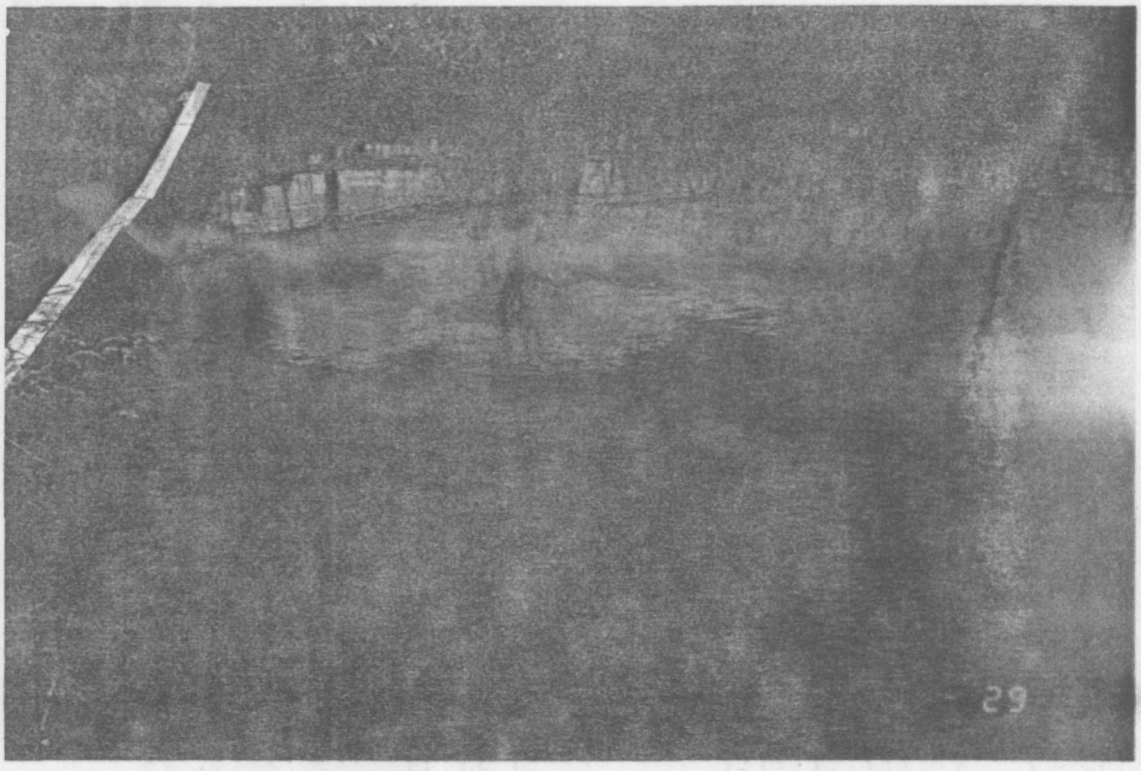


PHOTO NUMBER 13
Roll 1, Photo 13
L.H. Inc., Cambridge, Ohio
Surface view of Lagoon 3.
(Photo by Stanifer, 4/21/88) EES

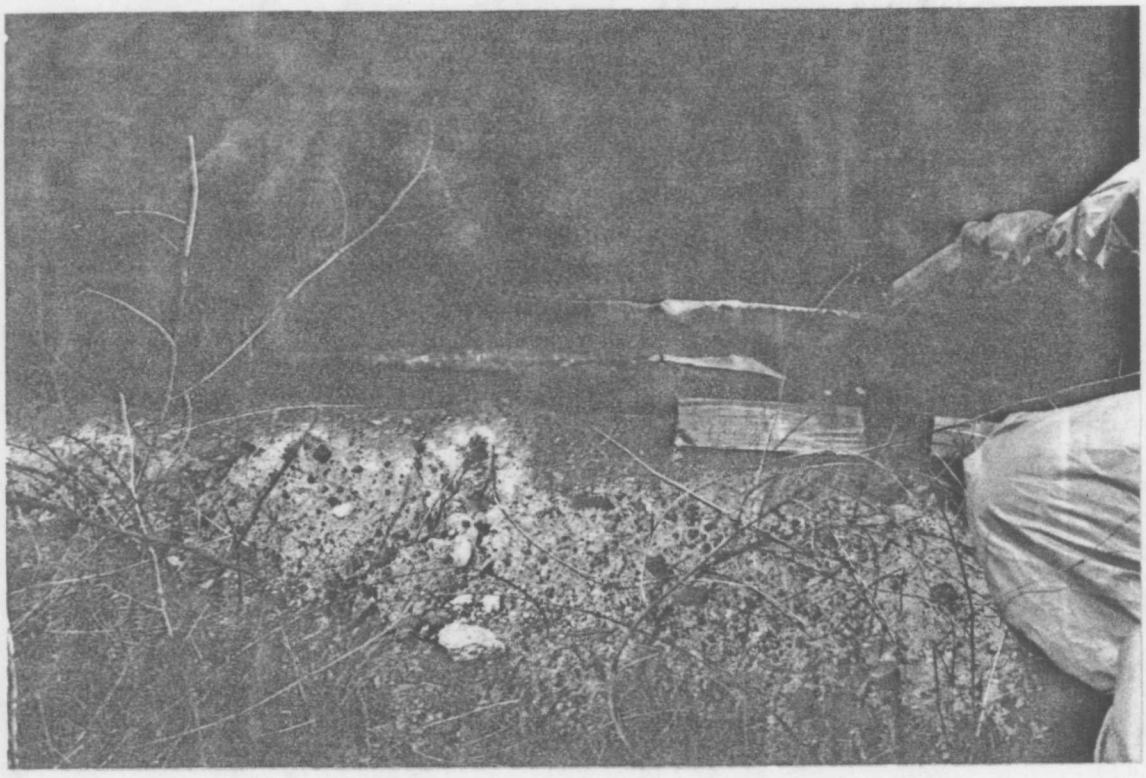


PHOTO NUMBER 14
Roll 1, Photo 14
L.H. Inc., Cambridge, Ohio
View of liner and soil along Lagoon 3.
(Photo by Stanifer, 4/21/88) EES

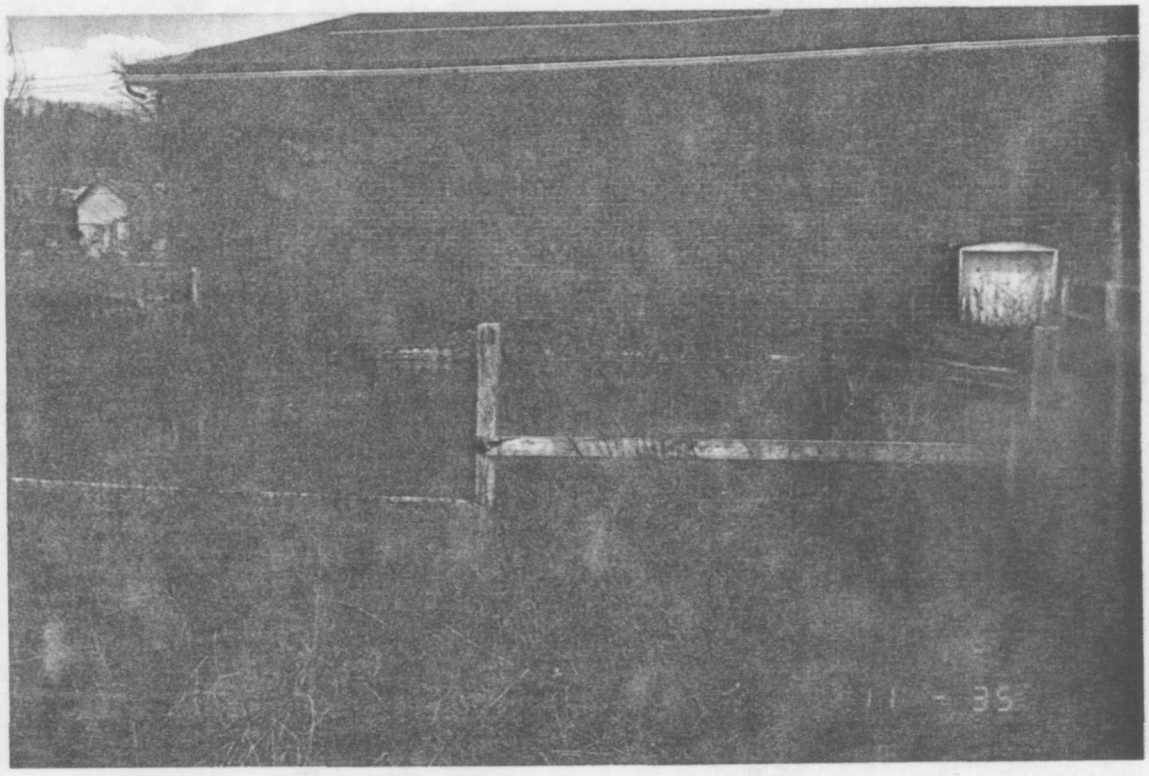


PHOTO NUMBER 16
Roll 1, Photo 16
L.H. Inc., Cambridge, Ohio
View of Lagoon 3. Building 1 in background.
Looking to the west.
(Photo by Stanifer, 4/21/88) EES

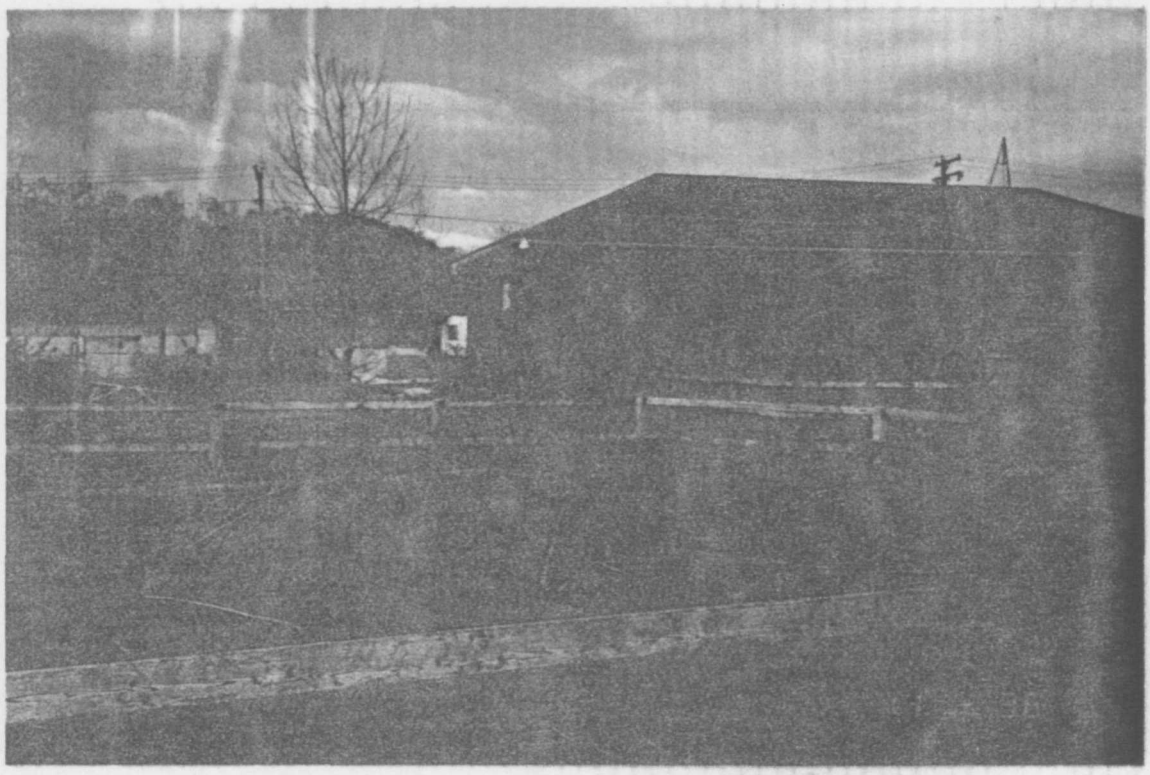


PHOTO NUMBER 17
Roll 1, Photo 17
L.H. Inc., Cambridge, Ohio
View of Lagoon 2. Lagoons 1 and 3, storage buildings and 300-gal storage tanks in background.
(Photo by Stanifer, 4/21/88) 823